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Information Technology Acquisition Best Practices

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Executive Summary

There is a plethora of best practices and strategies for information technology (IT) systems implementation. This abundance of information can overwhelm government acquisition professionals when trying to select the most appropriate path to execute IT modernization and may lead to sub-optimum decisions and disappointing outcomes.

Mistakes can be very expensive, especially when shifting from legacy systems to modernized technology. Recent legislation addresses the cost of inefficiency:

> The Federal Government spends nearly 75 percent of its annual information technology funding on operating and maintaining existing legacy information technology systems. These systems can pose operational risks. … These systems also pose security risks, including the inability to use current security best practices … making these systems particularly vulnerable to malicious cyber activity. (The Modernizing Government Act of 2017)

Government and industry need to create a process for efficient and cost-effective approaches to manage IT acquisition. Unfortunately, very few approaches are grounded in practical and tactical applications. This report provides recommendations for best practices, frameworks, and models that will improve IT acquisitions and modernization efforts for network services. The report will allow federal program managers and acquisition professionals to implement IT acquisition strategies that appropriately fit their situation on the acquisition lifecycle spectrum.

Background

Twenty-first century computing power is very different from 20th century computing power. Although computers were introduced in the 20th century, it is in the 21st that computers have become a major instrument used in everyday life. Everyone from children to large corporations and governments rely on computers. Information from email to phone numbers to bank account numbers to missile launch codes are stored in computer systems and processed by software applications.

The combination of all the hardware, software, processes, and protocols that enable information sharing is now commonly referred to as *information technology* (IT). The

dictionary defines IT as “the study or use of systems (especially computers and telecommunications) for storing, retrieving, and sending information.” The problem with the dictionary definition is that in today’s world, IT encompasses so many products and services that the use of the term *IT* is often susceptible to conflicting interpretations within programs and federal agencies or between industry and government.

Initially, the federal government viewed IT as a mission support function. As IT grew to be part of everyday life, agencies realized it needed to be more secure and robust. Unfortunately, the federal government has been playing catch up because of its inability to procure new IT and keep pace under existing federal regulations.

The *January 2017 State of Federal IT Report* places the importance of improving IT acquisitions in perspective. It identifies 41 federal agencies with annual IT spending greater than $500 million. The report also states that as of September 2016, the Federal IT Dashboard listed more than 4,300 IT programs in 780 major IT investments, and 43% of the projects were listed as over budget or behind schedule.[1]

Government program managers (PMs) struggle not only to buy new IT systems, but to modernize existing systems and avoid high operations and maintenance (O&M) costs of legacy systems. New laws, regulations, and guidance have created a plethora of frameworks, models, and methods for procuring and managing IT, and PMs can become overwhelmed with choices that are available to them. There is a need for analysis of the current literature and a gleaning of best practices and checklists that shed light on a path to successful IT procurement and modernization.

Scope

The term IT acquisition encompasses a broad range of products or services (e.g., end-user products, storage, compute, data centers, applications and software development, networks, transport, network management, help desk). Two areas of IT acquisition have already received heavy focus: (1) applications and software development (especially agile development), and (2) cloud services. Because it would be too extensive to research and address best practices for the full range of IT products or services, the focus of this report was narrowed to concentrate on the acquisition of network services (operations). Network services were selected because of its technical complexity, high cost, high risk, and highly sought-after requirements. The literature shows numerous federal acquisition professionals have requested or are requesting help with acquisition strategies and request for proposal (RFP) development for network services. Therefore, the goal of this report is to

- sort through the voluminous literature and highlight specific recommendations/best practices that federal agencies and program offices should be implementing for a successful network service acquisition;
- analyze existing models, frameworks and taxonomies that can be applied to IT acquisitions;
- develop and highlight checklists of the most important and applicable best practices; and

[1]CIO-Council-State-of-Federal-IT-Report-January-2017; p. Pol-4; p. A-2.

- reference exemplars and templates from other IT contracts (evaluation factors, service level agreements (SLAs), statements of work, incentive and/or payment plans, etc.).

Even though the focus for this report is on network services, the checklists and exemplars that have been applied as best practices can be applied to other types of IT acquisitions.

The Federal Government Legislative Initiatives

Diverse IT laws, regulations, policy, and guidance have been developed by the federal government to support the ever-expanding need for computing services. An initial scan of the available literature revealed thousands of recommendations concerning IT acquisition best practices since 2000. The Government Accountability Office (GAO) alone produced 803 recommendations between fiscal years (FY) 2010–2015. This large number of recommendations is a deterrent for acquisition professionals hoping to leverage the lessons learned by others.

Two of the most impactful policies were Section 5202 of the Clinger-Cohen Act of 1996 and Section 39.103 of the Federal Acquisition Regulations (FAR). Both recognized the potential benefits of modular contracting to control large systems implementation, and both state that agencies should, to the maximum extent practicable, use modular contracting for an acquisition of a major system of IT. Other key items of recent legislation include the following:

- Federal IT Acquisition Reform Act (FITARA), Dec. 19, 2014
- Modernizing Government Technology Act of 2017 (MGT Act)
- FITARA Enhancement Act of 2017
- TBM Council TBM Taxonomy v2.1, March 1, 2018
- President's Management Agenda, March 19, 2018

Some of the references used for this research provide detailed lists of legislative actions and major policies that impact the management and oversight of IT acquisitions. For more information on historical statutes and policy changes since Clinger-Cohen, see the following:

- History of IT Acquisition Reform—JCM05, Sept. 2015; pp. 91–103
- GAO-17-8-IT: Workforce Key Practices for Strong IPT, Nov. 30, 2016; pp. 5–8
- CIO Council State of Federal IT Report—Jan. 2017; pp. A-2–A-19

Frameworks and Taxonomies: How to Define IT Services

IT is many things to many people. How should it be categorized so federal agencies are talking about the same thing and making like comparisons? What is the difference between storage, compute, data center, transport, layer 2/3, local area networks/wide area networks, networking, desktops, end-user devices, etc., and does their use mean the same thing when employed by different federal agencies? The adoption of frameworks and taxonomies is needed to help answer these questions early in a program. A model or framework provides a basic structure, and a taxonomy provides a scheme of classification (lower level details).

Government programs typically assign a PM and use an Integrated Program Team (IPT) to execute the acquisition and operation of their IT system. One of the first problems encountered by any IPT working on an IT acquisition is to identify a solution that will fit their

organization goals and mission. The IPT has many choices, including which framework or taxonomy to adopt as they develop requirements and secure funding. Historically, they are not focused on adopting a common framework or taxonomy standardized across the federal government. However, that is exactly what is needed to provide transparent IT costs, consumption, and performance and enable cross-agency analysis and data sharing.

An evolution of frameworks and taxonomies are available for both industry and government to use in developing and deploying IT systems. Industry was the driver for many years, and the government adopted many of the ideas to embrace commercial best practices and adopt open system architectures. However, the government has created their own frameworks and taxonomies in recent years to bring both business and financial discipline to their requirements development processes. This led to a range of options for what should or could be used.

The following is a short summary of the key frameworks that appear to be most prevalent. The frameworks range from an engineering solution, to a business management solution, evolving to an investment management solution, and finally a framework that reflects a cost focus.

Open Systems Interconnection Model—An IT Engineering Solution

The Open System Interconnection (OSI) model defines a networking framework to implement protocols in seven layers. If you ask a network engineer to work on an IT acquisition, they almost always refer to the OSI 7-layer model, which developed from commercial industry standards.

The OSI 7-layer model was published in 1984 by International Standards Organization (ISO) as standard ISO 7498 and by the Telecommunications Standardization Sector of the International Telecommunication Union as standard X.200. It divides network communication into seven layers. Layers 1–4 are mostly concerned with moving data around. Layers 5–7 contain application-level data. Networks operate on one basic principle: "pass it on." Each layer takes care of a very specific job and then passes data on to the next layer.

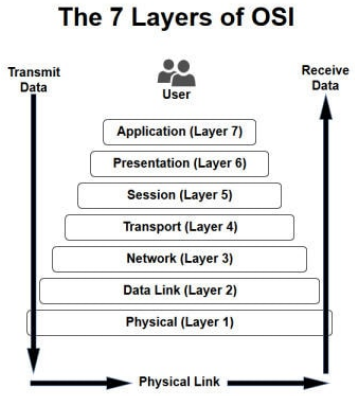

Figure 1. OSI 7 Layer Model

IT Infrastructure Library—Aligning IT Engineering With Business Management

IT Infrastructure Library (ITIL) is the set of detailed practices for IT Service Management (ITSM) whose primary purpose is to align IT services with business needs. By the early 1980s, the United Kingdom (UK) Central Computer and Telecommunications Agency (CCTA) saw that government and industry contracts were developing their own IT management practices and recognized the need for a standard. To meet this need, CCTA published the first ITIL in 1989. ITIL is a description of processes, procedures, and checklists used to establish a baseline allowing organizations to plan, implement, and improve. ITIL was built around a Plan-Do-Control-Act process model for controlling and managing operations. There were several updates from 1989–2005, followed by new releases of ITIL Version 2 in 2006, ITIL 2007, and the current version, ITIL 2011. A depiction of ITIL 2011 is shown in Figure 2.

Figure 2. ITIL 2011

Information Technology Investment Management Framework—Linking Business Management to IT Investment

In March 2004, the GAO released Information Technology Investment Management (ITIM) as an update to the exposure draft published in 2000. ITIM is a framework to measure the maturity of an organization's investment management processes that was built around the Select/Control/Evaluate approach outlined in the 1996 Clinger-Cohen Act.

ITIM identifies critical IT investment processes, establishes the presence or absence of these critical processes in an organization, assesses an organization's IT investment management capability and maturity, and offers recommendations for improvement. Used in this way, ITIM can be a valuable tool that (1) supports organizational self-assessment and improvement and (2) provides a standard against which an evaluation of an organization can be conducted.[2]

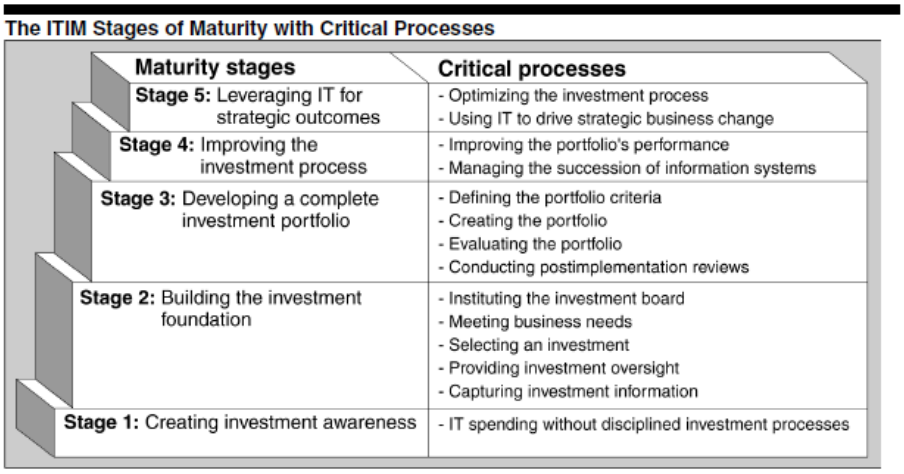

Figure 3. ITIM Stages and Critical Processes

ITIM defines five successive stages of maturity that an organization can achieve in relation to IT and the critical processes that must be in place to achieve each stage. ITIM was developed as a tool to assess the maturity of an agency's IT investment management process and to identify areas for improvement. ITIM was not designed to define specific IT services or to link the business and finance aspects of IT acquisitions.

Technology Business Management Framework—An IT Business, Investment, and Cost Solution

Technology Business Management (TBM) was first released in 2016 after a year-long IT Cost Commission that partnered private and public businesses with the federal government. The Commission identified 21 recommendations for improving IT expenditures. Version 2.0 was released in October 2016 and Version 2.1 was released in March 2018. Chief information officers in industry and academia recently adopted TBM v2.1 as a value-management framework enabling technology leaders and their business partners to collaborate on business aligned decisions.

TBM is not only a framework but provides a standard taxonomy to describe cost sources (cost pools), technologies, and IT resources/applications/services (IT towers). The TBM taxonomy provides the ability to compare costs, technologies, resources, applications, and services to peers and third-party options (e.g., public cloud). Just as businesses rely on generally accepted accounting principles (or GAAP) to drive standard practices for financial

[2] GAO-04-394G-IT Investment Management (ITIM) Guide, Mar 2004

reporting—and thus comparability between financial statements—the TBM taxonomy provides a generally accepted way of reporting IT costs, capabilities and other metrics.3

The TBM taxonomy is shown in Figure 4.4

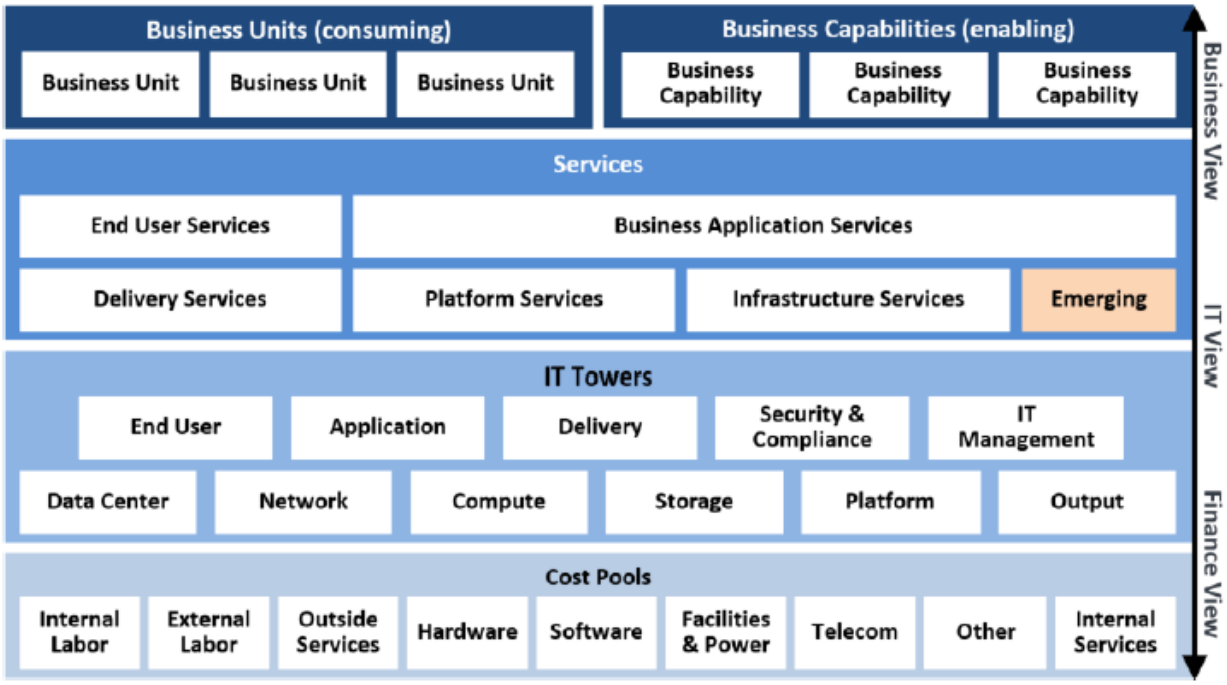

Figure 4. TBM Taxonomy Overview

The OSI model, ITIL practices, and ITIM frameworks all serve useful functions, but none of them provide the taxonomy needed to define and classify IT services and expenses that facilitate business-aligned decisions and enable cross-organizational analyses. Only, TBM provides enough detail to begin attempting to fully realize these goals.

Current Federal Guidance

The Office of Management and Budget (OMB) provides annual guidance on how federal agencies must assemble their IT budget exhibits for the president's budget submission to Congress. After ITIM's release in 2004, the OMB adopted its principles in its annual guidance, but it was not fully achieving its goal to understand and compare agency IT expenses on development and operations and maintenance (O&M)

Starting in 2016 (for the FY2018 budget), the OMB began the roll out of TBM to align with best practices in industry and academia. Currently, the OMB has adopted TBM for use by all federal agencies. As stated in the FY2020 IT Budget—Capital Planning Guidance (CPG),

[3] TBM Taxonomy, TBM Council, Version 2.0, Oct. 31, 2016; pg. 1.
[4] TBM Taxonomy, TBM Council, Version 2.0, Oct. 31, 2016; pg. 1.

> OMB is leveraging this widely adopted open source taxonomy, which is used within private, public and academic sectors and generating significant value. Leveraging a taxonomy that provides a standard business model for IT and is proactively managed by a non-profit organization also alleviates some of the burden for the government to identify, define, and achieve consensus on the standards and terms used. OMB is following an incremental process to roll out these changes.[5]

The CPG is incorporated into Circular A-11, Presentation, Submission and Execution of the Budget, which details how federal agencies are to submit their budget. The reference includes a figure that identifies the phased approach by year for full TBM implementation.

Federal adoption of TBM was initiated by the OMB during the Obama administration and it receives continued support during the Trump administration. The President's Management Agenda (PMA), released in March 2018, identifies Cross Agency Priority (CAP) Goal 10 as Improving Outcomes Through Federal IT Spending Transparency. It highlights that in the FY2018 President's Budget, 84% of the IT budget is categorized as "other" instead of being mapped to a specific IT category and spend. CAP Goal 10 states, "The Federal Government will adopt TBM government-wide by FY2022. This approach will improve IT spending data accountability and transparency, empowering agency executive suite leadership from across the enterprise to drive mission value and improve customer experience through technology."6

Based on OMB guidance and PMA direction, the TBM taxonomy is now mandated for all federal agencies. The timelines may vary between the OMB-mandated roll out and adoption by program offices, but the bottom line is that agencies are required to adopt the TBM taxonomy in IT acquisitions. All federal IT programs should adopt the TBM taxonomy and map the various aspects of their program to the appropriate IT towers and IT cost pools as defined by TBM taxonomy (see Figure 4). The IT towers should be reflected in the requirements and procurement documents. The IT cost pools should be reflected in either the Contract Data Requirements Lists (CDRLs) or the contract line item number (CLIN) structure for all acquisitions.

IT Acquisition Best Practices

This report provides best practices in four areas. The next section creates two new checklists that are based on best practices gathered from the literature. The references reviewed to support the research of IT acquisition best practices are identified in alphabetical order in the references section. In the sections preceding that, other existing well-defined best practices that are cited in this document for further consideration are provided; also, artifact references to locate examples of recent IT acquisitions that could be adopted for new requirements or competitions are provided.

IT Best Practices for Organizations and IPTs

The current IT literature offers numerous best practices. However, because they are embedded in the documentation, reviewing the literature can be overwhelming. It may be

[5] FY2020 IT Budget Capital Planning Guidance A-11 Draft, May 16, 2018
[6] President's Management Agenda, March 19, 2018

very difficult for a PM or IPT members to determine which items best suit their needs. This report analyzed each of the references to identify the most critical (and often repeated) best practices, sort them into logical groupings, and synthesize the information into an easy-to-use format. Most of the IT best practices fit in one of four areas: organizational readiness at the strategic and operational level; execution details at the tactical level; agile software development; or cloud services. The last two areas are specialized types of IT services, are the most mature forms of IT acquisitions, and already have a significant amount of research supporting best practices. Therefore, this research concentrated on the first two areas: organizational readiness and execution details.

The format chosen to present the analysis is a checklist with associated reference(s). This approach allows the reader to quickly identify the best practice and do targeted follow-up research on the details and intent behind each recommendation.

The two checklists that consolidate the numerous best practices are as follows:

- Appendix A, **IT Acquisition Best Practices—Organizational Readiness Checklist,** is an assessment of an agency or organization's readiness for large IT contracts.
- Appendix B, **IT Acquisition Best Practices—Pre-RFP Checklist for the IPT,** includes practical and tactical items the IPT can employ in developing the RFP.

The Organizational Readiness Checklist is targeted for agency leadership and provides valuable insight and risk assessment for these continuously repeated best practices. If the agency or organization has not assessed its own readiness to tackle major IT acquisitions and assigns it to an IPT, then the IPT needs to conduct that assessment and identify the gaps and risks to senior leadership. Failing to do that, the IT acquisition risks not meeting schedule or being over budget as have many other programs. The Pre-RFP Checklist for the IPT is a grouping of all the best practices that could be controlled or influenced by the IPT as they prepare the acquisition strategy and RFP. Neither of the checklists is exclusive to network services and can be equally useful to any IT acquisition.

IT Best Practices for Other Areas

There are several other areas of IT acquisition where best practices are needed. The resources in the references to this report have already developed well-defined criteria or checklists for these areas. These checklists are summarized below and should be used as presented in the source material.

IT Workforce Taxonomy and Labor Skill Best Practices

Properly staffing the IPT is critical. Several GAO reports point to this issue and provide additional information on workforce capabilities and skills:

- GAO-14-183T-IT: Leveraging Best Practices
- GAO-17-251SP-IT: Opportunities for Improving Acquisitions and Operations
- GAO-17-8-IT: Workforce Key Practices for Strong IPT, Nov. 30, 2016

GAO-17-8 offers the most explicit information on IPT skillsets and summarizes the proposed make-up, shown in Figure 5.[7]

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[7] GAO-17-8-IT: *Workforce Key Practices for Strong IPT*, Nov. 30, 2016; p. 25

The first five core disciplines shown in the GAO report are critical to any IPT, but inclusion of the remaining disciplines should be considered and depends on the scope and size of the IPT.

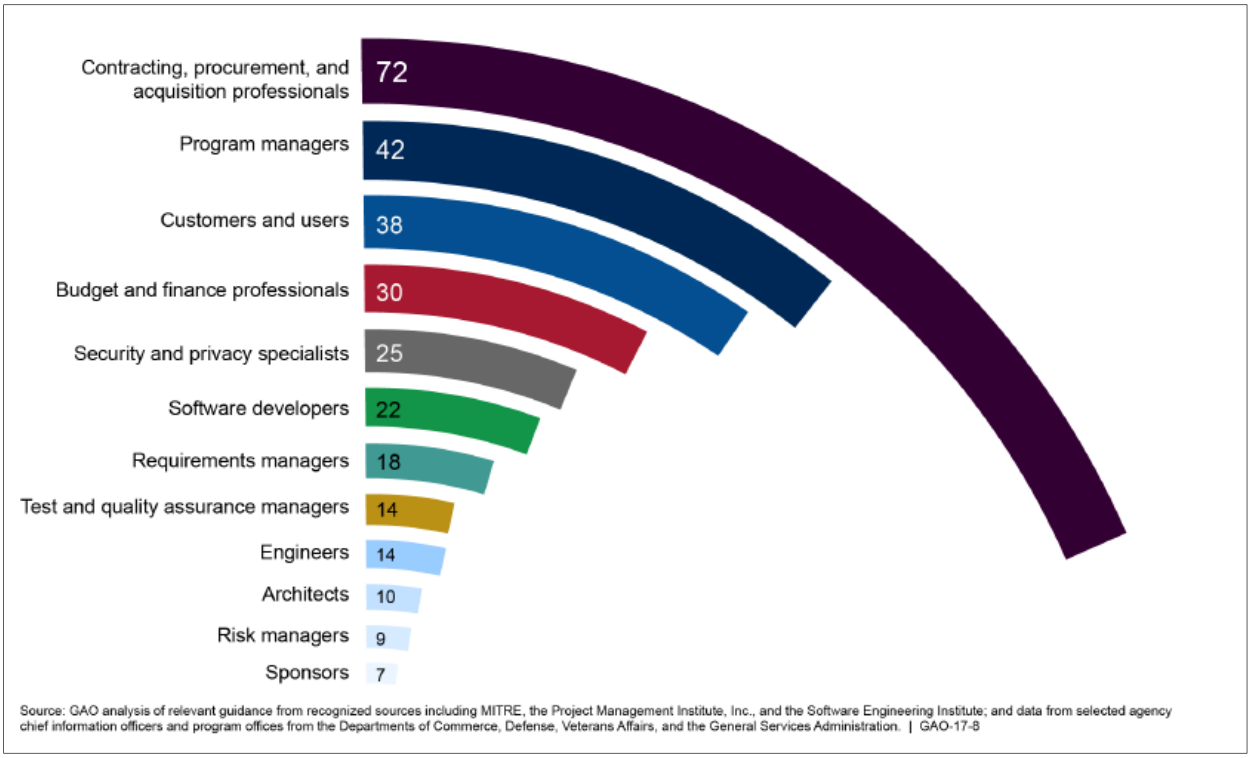

Figure 5. Frequency of Core Disciplines in IPT

Requirements Management Checklist

Good requirements management practices help organizations to better manage the design, development, and delivery of IT systems within established cost and schedule timeframes. GAO Report 18-326, *DoD MAIS: Adherence to Best Practices*, May 24, 2018, provides a list of best practices that can help an IPT through the requirements management process.[8] The report includes these practices, with additional detail for developing requirements:

- developing an understanding with the requirements providers of the meaning of the requirements;
- obtaining commitment to requirements from project participants;
- managing changes to requirements as they evolve during the project;
- maintaining bidirectional traceability among requirements and work; and

[8] GAO-18-326: *DoD MAIS: Adherence to Best Practices*, May 24, 2018; p. 18

- ensuring that project plans and work products remain aligned with requirements.

Risk Management Checklist

GAO Report 18-326, *DoD MAIS: Adherence to Best Practices*, May 24, 2018, provides a list of IT best practices that can help an IPT through the risk management process.[9] An effective risk management process includes the following leading practices:

- determining risk sources and categories;
- defining parameters used to analyze and categorize risks and to control the risk management effort;
- establishing and maintaining the strategy to be used for risk management;
- identifying and documenting risks;
- evaluating and categorizing each identified risk using defined risk categories and parameters, and determining its relative priority;
- developing a risk mitigation plan in accordance with the risk management strategy; and
- monitoring the status of each risk periodically and implementing the risk mitigation plan as appropriate.

Solicitation and Contract Exemplars

In addition to checklists, one of the most useful items an IPT can leverage in developing an IT acquisition are exemplars from programs of similar size and scope. Several federal websites contain materials that can be used to develop an IT requirement and conduct a source selection:

- **GSA Websites**: General Services Administration (GSA) Technology Products and Services website has examples of statements of work for various IT functions. See https://www.gsa.gov/technology/technology-products-services/how-to-get-help/sample-technology-statements-of-work. GSA also provides the Acquisition Gateway, which includes a detailed document library and project center with specific exemplars. The Acquisition Gateway can be accessed at https://www.gsa.gov/tools/supply-procurement-etools/acquisition-gateway.
- **DAU Website**: The Defense Acquisition University (DAU) has developed several templates, exemplars, and guides to support IT acquisition planning and contract vehicle decisions. They have an IT/Software (SW) CoP that provides a forum that is focused on improving the performance of the Defense IT/SW workforce. This community is focused on collaborating with the IT/software acquisition workforce to ensure engineer, design, develop, and sustain world-class IT/software acquisition practices. This community touches on all aspects of IT/software acquisition to facilitate better, faster, cheaper software solutions for all DoD personnel. Their link is https://www.dau.mil/cop/it/SitePages/About.aspx. They provide more than 30 documents that offer lessons learned on various military IT systems. They also have a tools section that offers best practices in assessing risk and compliance.

[9] GAO-18-326: *DoD MAIS: Adherence to Best Practices*, May 24, 2018; pp. 18–19

- **MITRE Website**: MITRE has created a public website, AiDA (Acquisition in a Digital Age), that provides extensive references for acquisition guides and acquisition templates that are helpful to PMs and IPTs: https://aida.mitre.org/references/. The site also has a section specific to IT acquisition (https://aida.mitre.org/references/it/) that offers extensive information on IT, with policies, guides, reports, and articles.

The Future

IT Acquisition Trends

Although modernizing the federal government infrastructure and technologies has been a focus of acquisition and source selection, several new approaches are starting to gain traction within the federal programs. Many federal agencies are already purchasing cloud services and agile software development through Managed Service Providers (MSPs). These contracts are usually performance based and often use a fixed price contract pricing arrangement. Agencies are now starting to try to extend this MSP approach to other areas of IT acquisitions, including network services, cybersecurity, and end-user devices. MSPs use the commonly-applied terms such as Infrastructure as a Service (IaaS), Platform as a Service (PaaS), and Software as a Service (Saas). However, the literature shows that the new term of IT as a Service (ITaas) is trending.

On the commercial side, industry is driving towards providing commercial software as a subscription. This trend has been described in several trade magazines and IT publications. Some companies estimate that software as a subscription could grow to as much as 80% of current licensed software by as early as 2020.10

Further Research

There is more that can be done to analyze the current thinking around IT modernization and network services. Some recommendations for continued research include the following:

- Expand the collection of exemplars. Add more materials from resources supporting IT acquisitions, such as GSA Alliant, and provide an analysis and summary of the exemplar content so it can be more readily applied.
- Conduct more analysis on recommended considerations for choosing contract types and incentives for IT acquisitions.
- Continue analysis of IT acquisition related reports for updates and additions to the existing checklists. This would include, but not be limited to, the following highly relevant reports that came out after the literature review was complete:
    - GAO-18-42-IT: Agencies Need to Involve CIOs
    - GAO-18-234T: Further Implementation of FITARA
    - GAO-18-460T-IT: Further Recommendations for Acquisitions
    - GAO-18-566T-IT: Continued Implementation of High-Risk Recommendations

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[10] Christy Pettey, Lessons learned from IT leaders who successfully moved to a SaaS-based business model, Gartner Group website article, May 30, 2018; p. 1

- Evaluate means to integrate IT modernization efforts with change management. Recent literature shows that change management can be holding back policymakers from achieving the full benefits of IT modernization.[11]

Conclusion and Recommendations

There are many best practices that exist within both government and industry to efficiently and effectively manage IT systems and their modernization. However, it is difficult for any program manager to grasp the full breadth and scope of the information and then select a model or practices that best fits the program. Several recommendations can help alleviate the situation:

- **Select the appropriate model, framework, and/or taxonomy:** This report reviewed the latest approaches to buying and managing IT systems as they evolved from the 1980s until now. More than one may apply; however, the TBM taxonomy appears the be the most comprehensive model.
- **Adopt the TBM taxonomy** and map the various aspects of the program to the appropriate IT towers and IT cost pools as defined by TBM taxonomy. The IT towers should be reflected in the requirements and procurement documents. The IT cost pools should be reflected in either the Contract Data Requirements Lists (CDRLs) or the contract line item number (CLIN) structure for all acquisitions.
- **Utilize checklists to help guide the Agency and IPTs through the process:** The agency or organization needs to assess its own readiness to tackle major IT acquisitions. The IPT needs to conduct that assessment and identify the gaps and risks to senior leadership before starting the project. It is recommended that the Agency and IPT utilize the checklists shown in Appendixes A and B of this report as they prepare the acquisition strategy and execute the source selection.

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Disclaimer

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Appendix A. IT Acquisition Best Practices—Organizational Readiness Checklist

Item	Best Practice	Reference
1.	Assess IT Investment Management maturity using ITIM	• GAO-04-394G-IT: Investment Management (ITIM) Guide, Mar 2004; p. 1-19
2.	Analyze the IT workforce for Skill Gaps and develop a plan to fill them.	• GAO-17-8-IT: Workforce Key Practices for Strong IPT; p. 5-10, 45 • GAO-17-494T: Implementation of IT Reform Law and Related Initiatives Can Help Improve Acquisitions; p. 1, 7-10
3.	Program staff has necessary knowledge and skills.	• GAO-14-183T-IT: Leveraging Best Practices; p. All • GAO-17-8-IT: Workforce Key Practices for Strong IPT; p. 2, 45-68
4.	Properly Staff Integrated Product Team (IPT).	• GAO-14-183T-IT: Leveraging Best Practices; p. All • GAO-17-8-IT: Workforce Key Practices for Strong IPT; p. 25 • Presidents-Management-Agenda, 19 Mar 201; p. 20 • OMB Guidance for specialized acquisition cadres, 13 July 2011; p. A-2 to A-4 • IT Procurement Practices That Clients Apply and the Best Practices That Gartner Recommends_2009; p. 7-12
5.	Program staff are consistent and stable.	• GAO-14-183T-IT: Leveraging Best Practices; p. All
6.	Senior Department and Agency executives support the program.	• GAO-14-183T-IT: Leveraging Best Practices; p. All • GAO-17-251SP-IT: Opportunities for Improving Acquisitions and Operations; p. 7, 13 • GAO-18-326-DoD MAIS: Adherence to Best Practices; p. ES, 7-11 • Procurement Practices That Clients Apply and the Best Practices That Gartner Recommends_2009; p. 11-12
7.	CIO role is following FITARA. CIO: 1) has significant role in decision making for IT budgeting, 2) approves IT budget for agency, 3) certifies compliance with OMB incremental dev guidance, 4) reviews and approves IT contracts, 5) approves appointment of any agency employee with title of CIO.	• GAO-17-494T: Implementation of IT Reform Law and Related Initiatives Can Help Improve Acquisitions; p. 4-5, 11-18 • GAO-17-251SP-IT: Opportunities for Improving Acquisitions and Operations; p. 4-7
8.	Program receives sufficient funding.	• GAO-14-183T-IT: Leveraging Best Practices; p. All
9.	Agency uses IT spend plans to improve budgets.	• GAO-17-251SP-IT: Opportunities for Improving Acquisitions and Operations; p. 9
10.	Agency develops and maintains an IT Strategic Plan. 1) Use a strategic approach for legacy system migration. 2) Migrate more services to cloud. 3) Buy more and develop less. 4) Mitigate impacts on jobs when closing data centers or purchasing services.	• GAO-17-251SP-IT: Opportunities for Improving Acquisitions and Operations; p. 15, 20-21
11.	Agency provides oversight for IT purchased as a service.	• GAO-17-251SP-IT: Opportunities for Improving Acquisitions and Operations; p. 15
12.	Attract and invest in IT workforce.	• GAO-17-251SP-IT: Opportunities for Improving Acquisitions and Operations; p. 16, 19

Appendix B. IT Acquisition Best Practices – Pre-RFP Checklist for the IPT

Item	Best Practice	Reference
1.	Use the TBM Taxonomy from the outset; map the scope of your effort to the appropriate IT Towers and Cost Pools.	• Presidents-Management-Agenda; p. 40 • FY2020 IT Budget Capital Planning Guidance-A-11-Draft; p. 5-8 • TBM Council-TBM-Taxonomy-v2.1; p. All
2.	Develop a modular contracting approach consistent with requirements of FAR 39.103-104.	• FAR 39.103-104 • Contracting Guidance to Support Modular Development, 14 Jun 3012; p. 3-7
3.	Use performance-based outcomes specified through SLAs. 1) SLAs developed by IPT (to include contracting), reviewed by legal.	• IT Procurement Practices That Clients Apply and the Best Practices That Gartner Recommends_2009; p. 9 • GSA-18-326-DoD MAIS: Adherence to Best Practices; p. 7
4.	Identify and actively engage with the stakeholders/users throughout the acquisition (especially in development of requirements).	• GAO-14-183T-IT: Leveraging Best Practices; p. ES, 4, 6, 13 • GAO-18-326-DoD MAIS: Adherence to Best Practices; p. ES, 7-11 • IT Procurement Practices That Clients Apply and the Best Practices That Gartner Recommends_2009; p. 11
5.	IPT manages and prioritizes requirements.	• GAO-14-183T-IT: Leveraging Best Practices; p. ES, 4, 6, 13 • GSA-18-326-DoD MAIS: Adherence to Best Practices; p. ES, 7-11
6.	Focus on cybersecurity; convey IT and cyber issues early to leadership.	• GAO-17-251SP-IT: Opportunities for Improving Acquisitions and Operations; p. 6-8, 21
7.	Work more closely with the procurement (contracting) organization.	• GAO-17-251SP-IT: Opportunities for Improving Acquisitions and Operations; p. 9-11 • CIO-Council-State-of-Federal-IT-Report-January-2017, p. Rec-9
8.	Determine if program is ready for a Managed Service Provider (MSP) approach or plan. 1) Requires detailed understanding of current systems and performance metrics. If not ready, consider a hybrid contracting strategy 2) Determine readiness for Firm Fixed Price (FFP); • If FFP, consider an outcome-based payment plan; only pay for services delivered • If not FFP yet, investigate use of Incentive Fees (IF) over Award Fees (AF)	• DoDI 5000 Series for Major Weapons Systems • Contracting Guidance to Support Modular Development, 14 Jun 3012; p. 10-14 • Comp-Econ-How to Evaluate IT Procurement Contracts, Nov 2008; p. 1-11
9.	Leverage common contracting templates	• IT Procurement Practices That Clients Apply and the Best Practices That Gartner Recommends_2009; p. 9
10.	Leverage common evaluation factors	• IPT guidance from Contracting Officer
11.	Buy as an Enterprise 1) Leverage existing contract vehicles (GWACs, MAC, Agency, IDIQ, etc.). 2) Get a free scope evaluation (e.g., GSA Alliant 2)	• CIO-Council-State-of-Federal-IT-Report-January-2017, p. F-5 • Presidents-Management-Agenda, 19 Mar 201; p. 34 • GSA Website, Agency websites
12.	Implement a strong risk management program	• GSA-18-326-DoD MAIS: Adherence to Best Practices; p. ES, 7–18

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